



Washington State Department of Transportation **Port Townsend-Keystone Route Vessel Options**

Vessel Description			Vehicle Capacity ⁱ	Acquisition Cost ⁱⁱ	Annual Cost ⁱⁱⁱ	Cost per vehicle space delivered per hour ^{iv}	Daily Route Capacity ^v	Benefits	Challenges
Hull Form	Super-structure	Propulsion System ^{vi,vii}		(Preliminary Estimate)	(Preliminary Estimate)	(Preliminary Estimate)			
Monohull		Conventional	59-car				900	<ul style="list-style-type: none"> Existing Steel Electric Class Ferries 	<ul style="list-style-type: none"> Existing Steel Electric Class Ferries
Monohull	Re-use existing SE house ^{viii}	Conventional	59-car	\$35-\$40 M	\$3.6 M	\$7.46	900	<ul style="list-style-type: none"> Re-uses existing Steel Electric house Hull could be designed to allow future installation of 2nd car deck No traffic mitigation required Simplest environmental process 	<ul style="list-style-type: none"> High construction risk Limited growth capacity Low fleet utility
Monohull	New	Conventional	60-car	\$35-\$40 M	\$3.6 M	\$7.46	900	<ul style="list-style-type: none"> Hull could be designed to allow future installation of 2nd car deck No traffic mitigation required Simplest environmental process 	<ul style="list-style-type: none"> Limited growth capacity Low fleet utility
Monohull	New	Conventional	80-car	\$45-\$50 M	\$3.8 M	\$5.95	1,200	<ul style="list-style-type: none"> Limited growth capacity Limited fleet utility Moderate fleet utility 	<ul style="list-style-type: none"> Limited growth capacity Limited fleet utility Moderate fleet utility
Monohull	New	Conventional	100-car	\$55-\$60 M	\$3.9 M	\$4.86	1,500	<ul style="list-style-type: none"> Maximum growth capacity Maximum fleet utility 	<ul style="list-style-type: none">
Monohull	New	Enhanced Maneuvering	60-car	\$35-\$40 M	\$3.5 M	\$7.32	900	<ul style="list-style-type: none"> Fewer tide-related cancellations No traffic mitigation required 	<ul style="list-style-type: none"> No growth capacity Additional training for operators and engineers Low fleet utility
Monohull	New	Enhanced Maneuvering	80-car	\$45-\$50 M	\$3.7 M	\$5.84	1,200	<ul style="list-style-type: none"> Fewer tide-related cancellations Moderate fleet utility 	<ul style="list-style-type: none"> Additional training for operators and engineers Limited growth capacity
Monohull	New	Enhanced Maneuvering	100-car	\$55-\$60 M	\$3.95 M	\$4.93	1,500	<ul style="list-style-type: none"> Fewer tide-related cancellations Maximum growth capacity Good fleet utility 	<ul style="list-style-type: none"> Additional training for operators and engineers
Catamaran	New	Conventional	60-car	\$25-\$30 M	\$4.2 M	\$8.93	900	<ul style="list-style-type: none"> Lowest acquisition cost More efficient loading and unloading No traffic mitigation required Fewer tide-related cancellations 	<ul style="list-style-type: none"> No fleet utility All new berthing structures required Higher operating cost Additional training for operators and engineers
Catamaran	New	Conventional	80-car	\$30-\$35 M	\$4.4 M	\$9.54	1,200	<ul style="list-style-type: none"> More efficient loading and unloading Fewer tide-related cancellations 	<ul style="list-style-type: none"> No fleet utility All new berthing structures required Higher operating cost Additional training for operators and engineers
Catamaran	New	Conventional	100-car	\$35-\$40 M	\$4.6 M	\$9.75	1,500	<ul style="list-style-type: none"> More efficient loading and unloading Fewer tide-related cancellations 	<ul style="list-style-type: none"> No fleet utility All new berthing structures required Highest operating cost Additional training for operators and engineers

ⁱ Traffic mitigation in Port Townsend and Coupeville would be required for any vessel that carries more cars than the current capacity of the vessels on the route.

ⁱⁱ Additional costs to modify Port Townsend and Keystone berthing structures to accommodate unique hull forms (i.e. catamaran) or larger vessels are not included.

iii Annual cost includes fuel, labor, maintenance, and consumable supplies

iv This figure provides a relative economy of scale and is used routinely in WSF service planning

v Summer schedule – two boats operating on Port Townsend-Keystone route

vi Conventional propulsion systems is diesel-mechanical drive with controllable pitch propellers

vii Enhanced maneuvering propulsion system is diesel-mechanical vertical axis propulsors (Voith-Schneider Drive)

viii New hull and casing with re-used cabins and curtain plate

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